

REMARKS

Claims 1-6, 8-13 and 15-23 were previously pending in the application.

Claims 12, 13, 15-17 and 21 are allowed.

Claims 1-11, 18-20 and 22 are rejected under 35 USC §103(a) in view of various combinations of teachings found in Shin (#6,601,313), Cho (#6,168,427), Perlov (#6,393,337), Horr (#RE30,610), and the newly cited Morgan (#6,202,528) prior art.

Claims 1 and 18 have been amended to highlight features of the invention not found in the prior art individually or in combination.

Claims 5 and 23 are objected to but would be allowed provided they are rewritten in independent form. Claim 23 has been rewritten to incorporate limitation of its base claim 22 and should now be in condition for allowance. Claim 22 has been cancelled.

Claims 1-6, 8-13, 15-21 and 23 remain in the case for consideration.

Applicant respectfully requests reconsideration and allowance of the claims remaining in the case for consideration (claims 1-6, 8-13, 15-21 and 23) in light of the above amendments and following remarks.

Claim Rejections – 35 U.S.C. § 103

Claims 1, 11 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shin in view of Morgan.

The rejections noted of claim 1, 11 and 18 are moot in view of amendments to the claims. The claim language now makes clear that the guiding block transfer unit moves the guide blocks “collectively.” Movement of the guide blocks is claimed to occur “radially.” Finally, clarification is made that a transfer rod is coupled to “each of” the guide blocks. Such limitations are not found in the prior art of record.

The following notes the deficiencies in the prior art:

- Shin guide blocks 22 are only vertically moveable, and not moveable in a “radial” direction. Accordingly, potential (radial) expansion of the wafer when exposed to high heat during a baking process would not be accommodated by the guide blocks. Furthermore, each guide block 22 is only individually adjustable, and not “collectively.”

- Morgan is directed to a guide for a saw blade, which is a completely separate field than semiconductor processing. And movement of guide blocks is linear and parallel, and not done “radially” or “collectively” as noted in claim 1.

The additionally cited prior art does not make up for these deficiencies:

- Though Cho does appear to teach using bracket and wing nut structures to adjust rollers 42 radially inward, such adjustment is manual and done with each structure individually, not “collectively.” Finally, there is no suggestion of structure that would allow such brackets and wing nut structures to be adjusted collectively as such nuts, once tightened down, are not prone to move.
- Perlov does not contain guide blocks that move “radially.” In fact, the articulated arm of Perlov only acts to move the contact points in a parallel, linear manner against multiple wafers (see, e.g., structure of Perlov FIG. 1A).
- Horr only teaches the use of a lift pin at each 120 degree portion of a wafer to tilt the wafer in proper, parallel orientation to a photomask. There is no disclosure of lateral or radial movement of various components.

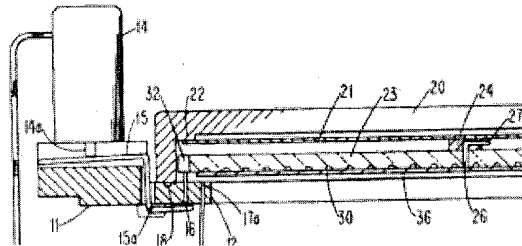
Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shin in view of Cho. Claim 22 has been cancelled, thus making this rejection moot.

Claims 2-3, 6, 9 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shin in view of Morgan as applied to claims 1 and 18 above, and further in view of Cho. These claims incorporate limitation of their base claims and are thus allowable over the prior art for the same reasons noted above with respect to claims 1 and 18.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shin in view of Morgan in view of Cho as applied to claims 1-3 above, and further in view of Perlov. The claims require a “plurality” of horizontally-extending supporting rods attached to the shaft and a “plurality” of transfer rods connected between the supporting rods and the guiding blocks. Perlov only teaches the use of a single horizontally extending support rod 112 and that this single rod is coupled to multiple guiding blocks 116a-116e.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shin in view of Morgan in view of Cho in view of Perlov as applied to claim 4 above, and further in view of Horr.

The Horr resilient element is of a diaphragm-type spring 21 (Horr, FIG. 3) and is adapted to keep separation between the chuck and the wafer holder. The diaphragm spring 21 spans across downwardly-projecting edges 22 of the chuck 20 that contact a top peripheral surface of the planar diaphragm spring 21. An underside of the diaphragm spring 21 contacts a central pedestal 24 of the glass disc 23 mounting the wafer.



Horr Patent

Diaphragm spring 21 not capable of moving a guide block

The lateral extent of the Horr wafer holder (e.g., the edges 32 of the glass disc 23) are not adjusted by the diaphragm spring 21. Accordingly, the expansion of the wafer under high heat is not considered by the teachings of Horr. The Horr diaphragm-type spring 21 can therefore not satisfy the limitations of claim 8, namely that “the resilient element [is] connected between the transfer rod and the plate [and is] capable of moving the guiding block to a predetermined position.” No guide block is shown in Horr since the glass disc fully encapsulates the wafer.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shin in view of Morgan in view of Cho as applied to claims 1-3 and 9 above, and further in view of Horr. This claim incorporates limitation of its base claim and are thus allowable over the prior art for the same reasons noted above with respect to claims 1 and 18.

Because the §103(a) objections cited attempt to combine multiple pieces of prior art, where such prior art may be in separate technical fields, care must be exercised in avoiding the improper use of hindsight analysis.

Applicable Law Concerning §103(a) Rejections

The Federal Circuit has been consistent in reversing the PTO when a rejection is made on the basis of hindsight, that is when an Examiner rejects the application under 35 U.S.C. §103(a) grounds as obvious under a combination of two or more patents without any specific suggestion within the patents to combine the features. In re Rouffett, 47 USPQ2d 1453 (Fed. Cir. 1998), the

Federal Circuit refused to uphold an obviousness rejection, even where skill in the art is high, absent the specific identification of principal, known to one of ordinary skill in the art that suggests the claimed combination.

The Federal Circuit reemphasized the care to be taken when combining prior art references in obviousness findings in Ecolochem v. Southern Cal. Edison, 56 USPQ2d 1065 (Fed. Cir. 2000), stating that such absence of evidence to combine prior art references “is defective as hindsight analysis.” The Federal Circuit held similarly in In re Kotzab, 55 USPQ2d 1313 (Fed. Cir. 2000), reversing the PTO and stating that, “[i]dentification of prior art statements that, in abstract, appear to suggest claimed limitation does not establish prima facie case of obviousness without finding as to specific understanding or principal within knowledge of skilled artisan that would have motivated one with no knowledge of the invention to make the combination in the manner claimed.”

Finally, the Federal Circuit has reaffirmed their view that the PTO used improper hindsight analysis to reject patent claims under §103(a) in the recent case of In re Lee, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002), stating that a specific suggestion in the prior art cited is required and not a simple citation to “common knowledge and common sense.” Lee includes a tour-de-force of case law directed to the issue of combining references including those as follows:

- “The factual inquiry whether to combine references must be thorough and searching. . . . It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with.” (Lee, 277 F.3d at 1343)
- “A showing of a suggestion, teaching, or motivation to combine the prior art references is an essential component of an obviousness holding.” (*quoting* Brown & Williamson Tobacco Corp. v. Philip Morris, Inc., 229 F.3d 1120, 1124-25, 56 USPQ2d 1456, 1459 (Fed. Cir. 2000))
- “Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.” (*quoting* C.R. Bard, Inc. v. M3 Systems, Inc., 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998))
- “There must be some motivation, suggestion, or teaching of the desirability of making the

specific combination that was made by the applicant.” (*quoting In re Dance*, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998)

- “Teachings of references can be combined *only* if there is some suggestion or incentive to do so.” (*quoting In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) (emphasis in original)

The Patent Office has failed to display the rigor required by the Federal Circuit holdings in demonstrating a suggestion within the art that the cited prior art references should be combined.

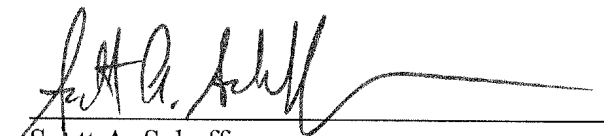
Allowable Subject Matter

Claims 12-17 and 21 are allowed.

For the foregoing reasons, reconsideration and allowance of claims 1-6, 8-13, 15-21 and 23 of the application as amended is requested. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

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